



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/781,187 | 02/13/2001 | Atsushi Ogino | 58799-038 | 8810 |

7590 04/27/2005

McDermott, Will & Emery
600, 13th Street, N.W.
Washington, DC 20005-3096

| |
|----------|
| EXAMINER |
|----------|

PHAN, HUY Q

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2687

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,187

Applicant(s)

OGINO ET AL.

Examiner

Huy Q Phan

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8, 10-19 and 21-25 is/are rejected.
7) ☒ Claim(s) 9 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Amendment filed on date: 02/03/2005.
Claims 1-19 and 21-25 are still pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-19 and 21-25 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 6-8, 10-12, 15-17, 19 and 21, 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Moon (US-6,405,047).

Regarding claim 1, Moon discloses a method of furnishing a location service (see fig. 4 and abstract) comprising:

transmitting a specific signal pattern at given intervals from at least three base stations (abstract), wherein a mobile terminal or station that receives said signal pattern

to its located by using positional information about said base stations (fig. 4 and col. 4, lines 50-55), sending timing or information on phase shift from reference time of each said signal pattern from said base stations, and signal pattern receiving time information (figs. 2-3, col. 4, lines 27-67);

deliberately (fig. 5, cols. 5-6) making a change to the sending timing of said signal pattern from at least one of said base stations (figs. 2-3, col. 4, lines 27-67); and

responsive to the change of the sending timing of the signal pattern, notifying said mobile terminal or station of an altered reference time offset or information on a phase shift from the reference time of said sending timing or updated sending timing of said signal pattern (figs. 2-3, col. 4, lines 27-67, also see cols. 5-10).

Regarding claim 2, Moon discloses the method of furnishing a location service according to claim 1, wherein in response to a request issued from said mobile terminal or station to at least one of said base stations (col. 5, lines 37-54), said altered reference time offset or updated sending timing of said signal pattern is sent to said mobile terminal or station (fig. 5 and its description).

Regarding claim 3, Moon discloses the method of furnishing a location service according to claim 2, wherein said altered reference time offset or updated sending timing of said signal pattern is sent to said mobile terminal or station after receiving information identifying said mobile terminal or station together with said request (fig. 5 and its description), and verifying the identification of said mobile terminal or station

("mobile station's PN sequence"; see col. 5, lines 43-54).

Regarding claim 6, Moon discloses the method of furnishing a location service according to claim 1, wherein the sending timing of said signal pattern from at least one of said base stations is changed regularly (fig. 5 and its description).

Regarding claim 7, Moon discloses the method of furnishing a location service according to claim 1, wherein said base stations include at least three base stations (abstract), each of base stations broadcasts positional information about a position of the broadcasting base station and neighboring base stations over a broadcast channel or control channel in response to a request from the mobile terminal or station (col. 4, lines 50-55 and fig. 5 and its description).

Regarding claim 8, Moon discloses the method of furnishing a location service according to claim 3, wherein said mobile terminal or station is notified of said altered reference time offset or updated sending timing of said signal pattern on one of different precision levels (fig. 5 and its description), according to the agreement between the owner of the mobile terminal or station and the administrator of said base stations (abstract).

Regarding claim 10, Moon discloses a method of furnishing a location service wherein a location of a mobile terminal or station is determined using sending timing of

signal patterns transmitted from a plurality of base stations, and receiving timing of said signal patterns at the mobile terminal or station (fig. 4, col. 4, lines 50-55), the method comprising the steps of:

deliberately (fig. 5 and its description) making a change to the sending timing of a specific signal pattern of radio waves transmitted at given intervals from a base station regularly (figs. 2-3, col. 4, lines 27-67); and

notifying the mobile terminal or station of an altered reference time offset of said sending timing or updated sending timing of said signal pattern (figs. 2-3, col. 4, lines 27-67; fig. 5 and its description).

Regarding claim 11, Moon discloses the method of furnishing a location service according to claim 10, wherein the identification of said mobile terminal or station is verified ("mobile station's PN sequence"; see col. 5, lines 43-54) and said mobile terminal or station is notified of the altered reference time offset of said sending timing or updated sending timing of said signal pattern (fig. 5 and its description).

Regarding claim 12, Moon discloses the method of furnishing a location service according to claim 11, wherein said mobile terminal or station is notified of said altered reference time offset or updated sending timing of said signal pattern on one of different precision levels (fig. 5 and its description), according to the agreement between the owner of the mobile terminal or station and the administrator of said base stations (abstract).

Regarding claim 15, Moon discloses a method of furnishing a location service (abstract) comprising:

deliberately (fig. 5 and its description) making a change to the sending timing of a specific signal pattern of radio waves transmitted at given intervals from a base station regularly or at irregular intervals (figs. 2-3, col. 4, lines 27-67);

calculating the location of a mobile terminal or station, based on the data on receiving timing of said signal pattern received at said mobile terminal or station (fig. 4, col. 4, lines 50-67 and col. 10, lines 1-9); and notifying said mobile terminal or station of a result of calculating step (col. 10, lines 1-9).

Regarding claim 16, Moon discloses the method of furnishing a location service according to claim 15, wherein the identification of said mobile terminal or station is verified ("mobile station's PN sequence"; see col. 5, lines 43-54).

Regarding claim 17, Moon discloses the method of furnishing a location service according to claim 16, wherein said mobile terminal or station is notified of the result of calculating step using one of different precision levels (fig. 1 and col. 2), according to an agreement between the owner of the mobile terminal or station and the administrator of said base station (inherently for system which the mobile station is subscribed).

Regarding claim 19, Moon discloses a method for locating a mobile terminal or station (abstract) comprising the steps of:

sending an ID of the mobile terminal or station ("mobile station's PN sequence"; see col. 5, lines 43-54), and a request for information on the sending timing of a specific signal pattern transmitted at given intervals from base stations in the vicinity of the mobile terminal or station locates to a base station in a zone in which the mobile terminal or station locates (fig. 5 and its description; also see figs. 2-3, col. 4, lines 27-67)); and

determining a location of the mobile terminal or station (fig. 4, col. 4, lines 50-55 and col. 10, lines 1-9) based on an answer from said base station in the zone in which the mobile terminal or station locates (figs. 2-3, col. 4, lines 27-67), respective receiving timing of each the signal pattern from each of said base stations in the vicinity of the mobile terminal or station (fig. 5 and its description).

Regarding claim 21, Moon discloses the method of location according to claim 19, wherein said mobile terminal or station receives information related to positions of the base stations in the vicinity of the mobile terminal or station over a broadcast channel or control channel from the base station in the zone in which the mobile terminal or station locates (col. 9, lines 30-46).

Regarding claim 22, Moon discloses a location system comprising at least three base stations and one mobile terminal or station (abstract), wherein:

said base stations transmit a specific signal pattern at given intervals (figs. 2-3, col. 4, lines 27-67);

at least one of said base stations deliberately changes the sending timing of said signal pattern (fig. 5 and its description); and

said mobile terminal or station determines a location of the mobile terminal or station based on altered reference time offset associated with the changed sending timing of said signal pattern or updated sending timing of said signal pattern, positional information about said base stations, and the information on receiving timing of each said signal pattern from said base stations (fig. 4, col. 4, lines 50-55 and col. 10, lines 1-9).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 5, 14 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon in view of Havinis et al. (US-6,671,377).**

Regarding claims 5, 14 and 23, Moon discloses a location system comprising at least three base stations and one mobile terminal or station (abstract), wherein:

said base stations transmit a specific signal pattern at given intervals (figs. 2-3, col. 4, lines 27-67);

at least one of said base stations deliberately changes the sending timing of said signal pattern (fig. 5 and its description);

said base stations send timing of said signal pattern transmitted from the base stations over at least one broadcast channel or control channel (col. 9, lines 10-40); and

said mobile terminal or station receives the sending timing of said signal pattern transmitted from base stations located in the vicinity of the mobile terminal or station (fig. 4, col. 4, lines 50-55), and determines a location of the mobile terminal or station based on the decrypted information (fig. 4, col. 4, lines 50-55 and col. 10, lines 1-9), positional information about said base stations (fig. 4, col. 4, lines 50-55), and information related to receiving timing of each said signal pattern from said base stations (figs. 2-3, col. 4, lines 27-67). But, Moon lacks to especially recite the base stations broadcast encrypted information on sending timing of said signal pattern transmitted from the base stations over at least one broadcast channel or control channel; and said mobile terminal or station decrypts the encrypted information on sending timing of said signal pattern transmitted from base stations located in the vicinity of the mobile terminal or station, by using a decrypting key, and determines a location of the mobile terminal or station based on the decrypted information.

However in analogous art, Havinis et al. teach the base stations broadcast encrypted information on sending timing of said signal pattern transmitted from the base stations over at least one broadcast channel or control channel; and said mobile terminal or station decrypts the encrypted information on sending timing of said signal pattern transmitted from base stations located in the vicinity of the mobile terminal or

station, by using a decrypting key, and determines a location of the mobile terminal or station based on the decrypted information (col. 5, line 45-col. 6, line 27; also see fig. 4A and its description). Since, Moon and Havinis et al. are related to the method for determining the location of the mobile station; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Moon as taught by Havinis et al. for purpose of increasing significantly the security of the wireless communication system in order to prevent the unauthorized users.

7. Claims 4, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon in view of Janhonen et al. (US-6,023,618).

Regarding claims 4, 13 and 18, Moon discloses all the limitations of claims 2, 11 and 16, respectively. But, Moon lacks to especially recite wherein the charging data for said mobile terminal or station is updated when the identification of said mobile terminal or station is verified.

However in analogous art, Janhonen et al. teach in figure 1, wherein the charging data for said mobile terminal or station is updated (col. 1, line 66-col. 2, line 49) when the identification of said mobile terminal or station is verified (col. 1, lines 50-65). Since, Moon and Janhonen et al. are related to the method for determining the location of the mobile station; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Moon as taught by Janhonen et al. for purpose of increasing significantly the accuracy of billing in the wireless communication service.

8. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon in view of Keranen et al. (US-6,681,099).

Regarding claim 24, Moon discloses the location system according to claim 22. But, Moon lacks to especially recite a server for storing the information on sending timing of each signal pattern transmitted from said base stations.

However in analogous art, Keranen et al. teach in figure 1, a server (server 15) for storing the information on sending timing of each signal pattern transmitted from said base stations (col. 3, line 45-col. 4, line 67; also see cols. 6-7). Since, Moon and Keranen et al. are related to the method for determining the location of the mobile station; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Moon as taught by Keranen et al. for purpose of improving advantageously the quality and reliability of the wireless communication service in providing the mobile station's location information.

Regarding claim 25, Moon and Keranen et al. disclose the location system according to claim 24. Keranen et al. further disclose wherein said server instructs said base stations to change the sending timing of signal pattern (col. 3, line 45-col. 4, line 67; also see cols. 6-7).

Allowable Subject Matter

9. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reason for the indication of allowance with the same reasons set forth in the previous Office Action (page 16).

Conclusion

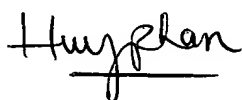
10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy Q Phan whose telephone number is 571-272-7924. The examiner can normally be reached on 8AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid G Lester can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SONNY TRINH
PRIMARY EXAMINER

Examiner: Phan, Huy Q.

AU: 2687

Date: Apr. 20, 2005